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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,037	11/25/2005	Paul Heeres	294-219 PC/D/US	1310
23869 7590 11/18/2009 HOFFMANN & BARON, LLP 6900 JERICHO TURNPIKE SYOSSET, NY 11791				
EXAMINER ROBINSON, KEITH O'NEAL				
ART UNIT 1638		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/537,037

**Applicant(s)**

HEERES ET AL.

**Examiner**

KEITH O. ROBINSON

**Art Unit**

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-12 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12 and 15-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-083)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Applicant's amendment of claims 10-12 and 15-22 and cancellation of claims 13 and 14, filed July 14, 2009, have been received and entered in full.

2. Claims 10-12 and 15-24 are under examination.

***Response to Arguments***

3. Applicant's arguments, see page 5, 3<sup>rd</sup> paragraph of 'Remarks' filed July 14, 2009, regarding the 35 USC § 112, second paragraph rejection on page 4 of the Office Action mailed April 14, 2009 have been fully considered and deemed persuasive; thus, the rejection has been withdrawn.

4. Applicant's arguments, see pages 6-7 of 'Remarks' filed July 14, 2009, regarding the 35 USC § 112, first paragraph rejection on pages 4-6 of the Office Action mailed April 14, 2009 have been fully considered and deemed persuasive; thus, the rejection has been withdrawn.

***Claim Objections***

5. Claims 23 and 24 remain objected to because of the following informalities:

The claims continue to recite "A method according to claim...". The term "a method" infers that there is more than one method. It is suggested that the claims be amended to change the term to recite "The method according to claim...".

6. Claims 23 and 24 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

7. Claims 10-12 and 15-24 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobsen et al (Euphytica 44: 43-48, 1989), in view of Jacobsen et al (Euphytica 53: 247-253, 1991), in view of Poehlman et al (Breeding Potato, *In* Breeding Field Crops, Chapter 21, pages 419-433, 1995), in view of Farran et al (Transgenic Research 11: 337-346, 2002).

The rejection has been maintained for the reasons of record as set forth on pages 6-9 of the Office Action mailed April 14, 2009. Applicant's arguments, filed July 14, 2009, have been fully considered but are not persuasive.

Applicant argues that Poehlman fails to rectify the deficiencies of Jacobson 1989 and 1991 because Poehlman teaches "[m]ore breeding work needs to be done on improving nutrient content" and lacks teaching selecting progeny having at least one

*amf* allele and higher protein content (see page 8, 3<sup>rd</sup> paragraph of 'Remarks' filed July 14, 2009).

This is not persuasive. The Poehlman et al reference makes it obvious to one of ordinary skill in the art to select for higher protein content because Poehlman et al teach the importance for breeding for improved quality such as protein content in potato. In addition the Jacobsen et al (1989) reference teach a method for breeding and selecting a potato comprising crossing a first parent potato with at least one *amf*-allele with a second parent potato without an *amf*-allele (see, for example, page 44, 2<sup>nd</sup> column, last paragraph to page 45, 1<sup>st</sup> column) and the Jacobsen et al (1989) reference also teaches selecting progeny by testing said progeny for the presence of at least one *amf*-allele (see, for example, page 45, last paragraph to page 46, 1st column). Furthermore, the Jacobsen et al (1991) teach selecting progeny for the presence of at least one *amf*-allele (see, for example, page 249, 2<sup>nd</sup> column, last paragraph to page 250, 1<sup>st</sup> column, lines 1-13). Thus, the combination of references would have been obvious to one of ordinary skill in the art.

See *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. \_\_\_, 82 USPQ2d 1385 (2007), where the Supreme Court particularly emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art." It states "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at \_\_\_, 82 USPQ2d at 1395. The Supreme Court further stated that:

"When a work is available in one field of endeavor, design incentives and other

market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at \_\_\_, 82 USPQ2d at 1396. The court also states "[t]he obviousness analysis cannot be confined by . . . overemphasis on the importance of published articles and the explicit content of issued patents. . . . In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends." *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396.

"A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, \_\_\_, 82 USPQ2d 1385, 1397 (2007). "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* Office personnel may also take into account "the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at \_\_\_, 82 USPQ2d at 1396.

Applicant argues that one skilled in the art would not have arrived at predictable results nor arrived at the claimed invention reading the combined teachings of Jacobsen (1989) with Jacobsen (1991) and Pöhlman and that the cited references fail to provide any reasonable expectation of success (see page 8, last paragraph of 'Remarks' filed July 14, 2009).

This is not persuasive. One of ordinary skill in the art would have a reasonable expectation of success based on the success of Jacobsen et al (1989) because Jacobsen et al (1989) teaches a method for breeding and selecting a potato comprising crossing a first parent potato with at least one amf-allele with a second parent potato without an amf-allele (see, for example, page 44, 2<sup>nd</sup> column, last paragraph to page 45,

1<sup>st</sup> column) as well as selecting progeny by testing said progeny for the presence of at least one amf-allele (see, for example, page 45, last paragraph to page 46, 1st column).

Applicant argues that Poehlman was published in 1995, which was several years after the publication of Jacobsen 1989 and 1991 (see page 9, 1st paragraph of 'Remarks' filed July 14, 2009).

This is not persuasive. It is unclear why the fact that Poehlman was published several years after the publication of the Jacobsen references has any relevancy with regard to the obviousness rejection. The Examiner has cited in the previous Office Action why the combined references are obvious over the claimed invention. In addition, Poehlman's teaching of more breeding work needs to be done does not teach away from the claimed invention but rather provides motivation for one of ordinary skill in the art to breed for improved nutrient content.

Applicant argues that the Farran reference fails to rectify the deficiencies of Jacobsen 1989 and 1991 and Poehlman (see page 9, last paragraph of 'Remarks' filed July 14, 2009).

This is not persuasive. The Farran reference teaches providing potato plants with a gene encoding a heterologous protein (see, for example, page 338, 2<sup>nd</sup> column, last paragraph to page 339, 1<sup>st</sup> column, 2<sup>nd</sup> paragraph); thus, one of ordinary skill in the art would have understood that other heterologous proteins can also be used in the method taught by Farran et al because the reference teaches, "Potato tubers may be used, by applying this technology, to produce other heterologous proteins of interest...".

***Conclusion***

8. No claims are allowed.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH O. ROBINSON whose telephone number is (571)272-2918. The examiner can normally be reached Monday – Friday, 8:00 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keith O. Robinson

/Cynthia Collins/  
Primary Examiner, Art Unit 1638